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# LAMPIRAN

### Lampiran 1. Dokumentasi Kegiatan

#### Lampiran 1.1. Dokumentasi di Laboratorium



#### Lampiran 1.2. Dokumentasi di Lapangan





## Lampiran 2. Olah data Excel

Data Meteorologi						
No	Waktu	Kec. Angin (m/s)	Temperatur (K)	Kelembaban Udara (%)	Tekanan Udara (mmHg)	Arah Mata Angin
1	8.00-8.03	2	302.7	65	760.65	BD
2	8.03-8.06	2	303.9	63	760.80	B
3	8.06-8.09	2	304.1	66	760.80	BL
4	8.09-8.12	2	304.5	69	760.80	S
5	8.12-8.15	2	304.7	65	760.73	B
6	8.15-8.18	2	274.7	67	760.80	BL
7	8.18-8.21	2	305.1	63	760.95	BD
8	8.21-8.24	2	305.7	59	761.03	BD
9	8.24-8.27	2	306.1	57	760.95	B
10	8.27-8.30	3	306.9	57	761.03	BD
11	8.30-8.33	2	308.1	55	761.03	BL
12	8.33-8.36	3	309.4	57	761.03	B
13	8.36-8.39	3	310.4	49	761.03	BL
14	8.39-8.42	3	310.9	48	761.03	BD
15	8.42-8.45	3	311.6	41	760.80	BD
16	8.45-8.48	3	311.5	39	760.88	B
17	8.48-8.51	2	311.5	42	760.95	BD
18	8.51-8.54	3	310.9	41	760.88	B
19	8.54-8.57	3	310.7	41	760.95	BL
20	8.57-9.00	3	310.6	48	760.88	BL
1	9.00-9.03	3	310.4	49	761.03	B
2	9.03-9.06	3	310	49	760.80	U
3	9.06-9.09	3	309	50	760.80	U
4	9.09-9.12	3	309.2	51	760.95	S
5	9.12-9.15	3	308.9	48	760.88	TG
6	9.15-9.18	3	308.6	46	760.88	TL
7	9.18-9.21	3	308.5	47	760.80	TL
8	9.21-9.24	3	308.5	46	760.80	TL
9	9.24-9.27	3	308.5	45	760.80	TG
10	9.27-9.30	3	308.5	45	760.73	U
11	9.30-9.33	3	308.6	45	760.80	U
12	9.33-9.36	3	308.9	45	760.80	TL
13	9.36-9.39	3	308.9	45	760.88	TL
14	9.39-9.42	3	308.9	46	760.73	T
15	9.42-9.45	3	308.9	45	760.58	TL
16	9.45-9.48	3	308.9	45	760.73	S
17	9.48-9.51	2	308.9	47	760.65	U
18	9.51-9.54	3	308.9	47	760.80	TL
19	9.54-9.57	3	308.7	47	760.58	T
20	9.57-10.00	3	308.4	50	760.58	U

Kecepatan Kendaraan (KM/JAM)				
No	Waktu	Sepeda Motor	Kendaraan Ringan	Kendaraan Berat
1	8.00-9.00	33	28	19
2		32	34	22
3		32	19	20
4		34	24	17
5		28	27	18
6		22	22	22
7		36	25	18
8		33	24	20
9		32	27	20
10		22	22	16
11		28	24	18
12		32	36	26
13		22	22	16
14		32	27	22
15		26	28	17
16		28	21	26
17		33	22	22
18		34	25	17
19		33	28	24
20		32	22	22



No	Waktu (WIB)	Jumlah Kendaraan		
		Jenis Kendaraan		
		Kendaraan bermotor	Kendaraan Ringan	Kendaraan berat
1	8.00 - 9.00	9741	3570	118
2	9.00 - 10.00	8118	2842	289
3	10.00 - 11.00	7465	2457	207
4	11.00 - 12.00	6813	2772	315
5	12.00 - 13.00	4554	2718	180
6	13.00 - 14.00	5517	2637	261
7	14.00 - 15.00	4257	2313	126
8	15.00 - 16.00	3744	3186	171
<b>TOTAL</b>		<b>60209</b>	<b>22495</b>	<b>1677</b>

NO	UKURAN PM	W1 (g)	W2 (g)
1	> 10 µm	0.1751	0.1752
2	2.5 - 10 µm	0.1842	0.1865
3	1 - 2.5 µm	0.1831	0.1845
4	0.5 - 1 µm	0.1837	0.1854
5	< 0.5 µm	0.1837	0.1862

Laju Alir saat dinyalakan	0.04	m <sup>3</sup> /menit
Laju Alir saat dimatikan	0.039	m <sup>3</sup> /menit

#### Laju Alir Volume Terkoreksi

$$Q_s = Q_o \times \frac{[T_s \times P_o]^{1/2}}{[T_o \times P_s]}$$

Keterangan

- $Q_s$  : Laju alir volume dikoreksi pada kondisi standar (Nm<sup>3</sup>/menit)  
 $Q_o$  : Laju alir volume uji (m<sup>3</sup>/menit)  
 $T_s$  : Temperatur Standar, 298 K  
 $T_o$  : Temperatur rata-rata aktual (273 + Tukur) dimana  $Q_o$  ditentukan  
 $P_s$  : Tekanan Barometrik Standar, yaitu 101.3 kPa (760 mmHg)  
 $P_o$  : Tekanan Barometrik rata-rata aktual dimana  $Q_o$  ditentukan

Diketahui	$Q_o$ nyata =	0.04 m <sup>3</sup> /menit	$Q_o$ mati =	0.039 m <sup>3</sup> /menit
	$T_s =$	298 K	$T_o =$	302.7 K
	$P_s =$	760 mmHg	$P_o =$	757.725 mmHg
	$P_o =$	760.65 mmHg	$P_o =$	757.725 mmHg

Saat Dinyalakan	$Q_{s1} =$	$0.04 \times \frac{298 \times 760.65^{1/2}}{302.7 \times 760}$	$Q_{s1} =$	0.040 Nm <sup>3</sup> /menit
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Saat Dimatikan	$Q_{s2} =$	$0.039 \times \frac{298 \times 760.65^{1/2}}{306.5 \times 760}$	$Q_{s2} =$	0.038 Nm <sup>3</sup> /menit
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#### Menghitung Banyaknya Volume

$$V_{std} = \frac{\sum_{i=1}^n Q_s}{n} \times t$$

Keterangan :

- $V_{std}$  : Volume contoh uji udara dalam keadaan standar (Nm<sup>3</sup>)  
 $Q_s$  : Laju alir volume dikoreksi pada kondisi standar ke-s (m<sup>3</sup>/menit)  
 $n$  : Jumlah pecatatan laju reaksi

Diketahui	$Q_{s1} =$	0.040 Nm <sup>3</sup> /menit	$Q_{s2} =$	0.038 Nm <sup>3</sup> /menit
	$n =$	2	$t =$	480 Menit
	$V_{std} =$	$\frac{0.0397 + 0.0384}{2} \times 480$	$V_{std} =$	18.74 Nm <sup>3</sup>

**Konsentrasi PM >10 µm**

$$C = \frac{W2 - W1}{Vstd} \times 10^6$$

Keterangan :

- C : Konsentrasi massa partikel tersuspensi (µg/Nm<sup>3</sup>)  
 W1 : Berat filter awal (g)  
 W2 : Berat Filter akhir (g)  
 Vstd : Volume contoh uji udara dalam keadaan standar (Nm<sup>3</sup>)  
 10<sup>6</sup> : Konversi Gram (g) ke mikrogram (µg)

Diketahui	W1 =	0.1731 g				
	W2 =	0.1752 g				
	Vstd =	18.737 Nm <sup>3</sup>				
C	=	$\frac{0.1752 - 0.1731}{18.737}$		×	10 <sup>6</sup>	
C	=	112.08 µg/Nm <sup>3</sup>				

**Konsentrasi PM 2,5 - 10 µm**

$$C = \frac{W2 - W1}{Vstd} \times 10^6$$

Keterangan :

- C : Konsentrasi massa partikel tersuspensi (µg/Nm<sup>3</sup>)  
 W1 : Berat filter awal (g)  
 W2 : Berat Filter akhir (g)  
 Vstd : Volume contoh uji udara dalam keadaan standar (Nm<sup>3</sup>)  
 10<sup>6</sup> : Konversi Gram (g) ke mikrogram (µg)

Diketahui	W1 =	0.1842 g				
	W2 =	0.1865 g				
	Vstd =	18.737 Nm <sup>3</sup>				
C	=	$\frac{0.1865 - 0.1842}{18.737}$		×	10 <sup>6</sup>	
C	=	122.75 µg/Nm <sup>3</sup>				

**Konsentrasi PM 1 - 2,5 µm**

$$C = \frac{W2 - W1}{Vstd} \times 10^6$$

Keterangan :

- C : Konsentrasi massa partikel tersuspensi (µg/Nm<sup>3</sup>)
- W1 : Berat filter awal (g)
- W2 : Berat Filter akhir (g)
- Vstd : Volume contoh uji udara dalam keadaan standar (Nm<sup>3</sup>)
- 10<sup>6</sup> : Konversi Gram (g) ke mikrogram (µg)

Diketahui	W1 =	0.1831 g			
	W2 =	0.1845 g			
	Vstd =	18.737 Nm3			
C	=	$\frac{0.1845 - 0.1831}{18.737}$	×	10 <sup>6</sup>	
C	=	74.72 µg/Nm3			

**Konsentrasi PM 0,5 - 1 µm**

$$C = \frac{W2 - W1}{Vstd} \times 10^6$$

Keterangan :

- C : Konsentrasi massa partikel tersuspensi (µg/Nm<sup>3</sup>)
- W1 : Berat filter awal (g)
- W2 : Berat Filter akhir (g)
- Vstd : Volume contoh uji udara dalam keadaan standar (Nm<sup>3</sup>)
- 10<sup>6</sup> : Konversi Gram (g) ke mikrogram (µg)

Diketahui	W1 =	0.1837 g			
	W2 =	0.1854 g			
	Vstd =	18.737 Nm3			
C	=	$\frac{0.1854 - 0.1837}{18.737}$	×	10 <sup>6</sup>	
C	=	90.73 µg/Nm3			

**Konsentrasi PM <0.5 µm**

$$C = \frac{W2 - W1}{Vstd} \times 10^6$$

Keterangan :

- C : Konsentrasi massa partikel tersuspensi (µg/Nm<sup>3</sup>)
- W1 : Berat filter awal (g)
- W2 : Berat Filter akhir (g)
- Vstd : Volume contoh uji udara dalam keadaan standar (Nm<sup>3</sup>)
- 10<sup>6</sup> : Konversi Gram (g) ke mikrogram (µg)

Diketahui	W1 =	0.1837 g			
	W2 =	0.1862 g			
	Vstd =	18.737 Nm3			
C	=	$\frac{0.1862 - 0.1837}{18.737}$	×	10 <sup>6</sup>	
C	=	133.43 µg/Nm3			

NO	Rekapitulasi Konsentrasi PM	
	Ukuran PM	Konsentrasi
1	>10 µm	112.08
2	2.5 - 10 µm	122.75
3	1 - 2.5 µm	74.72
4	0.5 - 1 µm	90.73
5	< 0.5 µm	133.43

Konversi ke Jenis PM (8 Jam)		
No	Jenis PM	Konsentrasi
1	TSP	533.72
2	PM10	421.64
3	PM2,5	298.88

**Nilai pendekatan konsentrasi PM untuk waktu pengukuran 24 jam (Konversi Canter)**

$$C_1 = C_2 \cdot \left(\frac{t_1}{t_2}\right)^p \quad (6)$$

dimana,  
 $C_1$  = Konsentrasi udara dengan lama pengukuran  $t_1$  ( $\mu\text{g}/\text{m}^3$ ),  
 $C_2$  = Konsentrasi udara dengan lama pengukuran  $t_2$  ( $\mu\text{g}/\text{m}^3$ ),  
 $t_1$  = Lama pengukuran selama 24 jam,  
 $t_2$  = Lama pengukuran saat dilakukan pengambilan sampel 1 (jam),  
 $p$  = Faktor konversi dengan nilai 0,159.

**Konversi Canter Pengukuran 24 Jam (TSP)**

$$= C_2 \times \left(\frac{t_2}{t_1}\right)^p$$

$$= 533.7152 \times \left(\frac{8}{24}\right)^{0.159}$$

$$= 533.7152 \times 0.839726$$

$$= 448.17 \mu\text{g}/\text{m}^3$$

Konsentrasi PM berdasarkan ukuran partikel pengukuran 8 jam					
Indikator/Parameter	Unit	A. A.P. Pemanan	A. Sektor Industri	Layanan Publik	Residential
TSP	µg/m³	121.13	111.13	111.13	111.13
PM10	µg/m³	104.75	94.75	94.75	94.75
PM2,5	µg/m³	69.80	59.80	59.80	59.80
PM1	µg/m³	82.00	72.00	72.00	72.00
PM0,5	µg/m³	74.72	64.72	64.72	64.72
PM0,25	µg/m³	67.44	57.44	57.44	57.44
PM0,1	µg/m³	60.16	50.16	50.16	50.16
PM0,075	µg/m³	52.88	42.88	42.88	42.88
PM0,05	µg/m³	45.60	35.60	35.60	35.60
PM0,0375	µg/m³	38.32	28.32	28.32	28.32
PM0,025	µg/m³	31.04	21.04	21.04	21.04
PM0,01875	µg/m³	23.76	13.76	13.76	13.76
PM0,0125	µg/m³	16.48	6.48	6.48	6.48
PM0,00875	µg/m³	9.20	-0.80	-0.80	-0.80
PM0,00625	µg/m³	1.92	-3.92	-3.92	-3.92
PM0,004375	µg/m³	-5.36	-8.36	-8.36	-8.36
PM0,003125	µg/m³	-10.72	-13.72	-13.72	-13.72
PM0,0021875	µg/m³	-16.08	-19.08	-19.08	-19.08
PM0,0015625	µg/m³	-21.44	-24.44	-24.44	-24.44
PM0,001125	µg/m³	-26.80	-29.80	-29.80	-29.80
PM0,000875	µg/m³	-32.16	-35.16	-35.16	-35.16
PM0,000625	µg/m³	-37.52	-40.52	-40.52	-40.52
PM0,0004375	µg/m³	-42.88	-45.88	-45.88	-45.88
PM0,0003125	µg/m³	-48.24	-51.24	-51.24	-51.24
PM0,00021875	µg/m³	-53.60	-56.60	-56.60	-56.60
PM0,00015625	µg/m³	-58.96	-61.96	-61.96	-61.96
PM0,0001125	µg/m³	-64.32	-67.32	-67.32	-67.32
PM0,0000875	µg/m³	-69.68	-72.68	-72.68	-72.68
PM0,0000625	µg/m³	-75.04	-78.04	-78.04	-78.04
PM0,00004375	µg/m³	-80.40	-83.40	-83.40	-83.40
PM0,00003125	µg/m³	-85.76	-88.76	-88.76	-88.76
PM0,000021875	µg/m³	-91.12	-94.12	-94.12	-94.12
PM0,000015625	µg/m³	-96.48	-99.48	-99.48	-99.48
PM0,00001125	µg/m³	-101.84	-104.84	-104.84	-104.84
PM0,00000875	µg/m³	-107.20	-110.20	-110.20	-110.20
PM0,00000625	µg/m³	-112.56	-115.56	-115.56	-115.56
PM0,000004375	µg/m³	-117.92	-120.92	-120.92	-120.92
PM0,000003125	µg/m³	-123.28	-126.28	-126.28	-126.28
PM0,0000021875	µg/m³	-128.64	-131.64	-131.64	-131.64
PM0,0000015625	µg/m³	-134.00	-137.00	-137.00	-137.00
PM0,000001125	µg/m³	-139.36	-142.36	-142.36	-142.36
PM0,000000875	µg/m³	-144.72	-147.72	-147.72	-147.72
PM0,000000625	µg/m³	-150.08	-153.08	-153.08	-153.08
PM0,0000004375	µg/m³	-155.44	-158.44	-158.44	-158.44
PM0,0000003125	µg/m³	-160.80	-163.80	-163.80	-163.80
PM0,00000021875	µg/m³	-166.16	-169.16	-169.16	-169.16
PM0,00000015625	µg/m³	-171.52	-174.52	-174.52	-174.52
PM0,0000001125	µg/m³	-176.88	-179.88	-179.88	-179.88
PM0,0000000875	µg/m³	-182.24	-185.24	-185.24	-185.24
PM0,0000000625	µg/m³	-187.60	-190.60	-190.60	-190.60
PM0,00000004375	µg/m³	-192.96	-195.96	-195.96	-195.96
PM0,00000003125	µg/m³	-198.32	-201.32	-201.32	-201.32
PM0,000000021875	µg/m³	-203.68	-206.68	-206.68	-206.68
PM0,000000015625	µg/m³	-209.04	-212.04	-212.04	-212.04
PM0,00000001125	µg/m³	-214.40	-217.40	-217.40	-217.40
PM0,00000000875	µg/m³	-219.76	-222.76	-222.76	-222.76
PM0,00000000625	µg/m³	-225.12	-228.12	-228.12	-228.12
PM0,000000004375	µg/m³	-230.48	-233.48	-233.48	-233.48
PM0,000000003125	µg/m³	-235.84	-238.84	-238.84	-238.84
PM0,0000000021875	µg/m³	-241.20	-244.20	-244.20	-244.20
PM0,0000000015625	µg/m³	-246.56	-249.56	-249.56	-249.56
PM0,000000001125	µg/m³	-251.92	-254.92	-254.92	-254.92
PM0,000000000875	µg/m³	-257.28	-260.28	-260.28	-260.28
PM0,000000000625	µg/m³	-262.64	-265.64	-265.64	-265.64
PM0,0000000004375	µg/m³	-268.00	-271.00	-271.00	-271.00
PM0,0000000003125	µg/m³	-273.36	-276.36	-276.36	-276.36
PM0,00000000021875	µg/m³	-278.72	-281.72	-281.72	-281.72
PM0,00000000015625	µg/m³	-284.08	-287.08	-287.08	-287.08
PM0,0000000001125	µg/m³	-289.44	-292.44	-292.44	-292.44
PM0,0000000000875	µg/m³	-294.80	-297.80	-297.80	-297.80
PM0,0000000000625	µg/m³	-300.16	-303.16	-303.16	-303.16
PM0,00000000004375	µg/m³	-305.52	-308.52	-308.52	-308.52
PM0,00000000003125	µg/m³	-310.88	-313.88	-313.88	-313.88
PM0,000000000021875	µg/m³	-316.24	-319.24	-319.24	-319.24
PM0,000000000015625	µg/m³	-321.60	-324.60	-324.60	-324.60
PM0,00000000001125	µg/m³	-326.96	-329.96	-329.96	-329.96
PM0,00000000000875	µg/m³	-332.32	-335.32	-335.32	-335.32
PM0,00000000000625	µg/m³	-337.68	-340.68	-340.68	-340.68
PM0,000000000004375	µg/m³	-343.04	-346.04	-346.04	-346.04
PM0,000000000003125	µg/m³	-348.40	-351.40	-351.40	-351.40
PM0,0000000000021875	µg/m³	-353.76	-356.76	-356.76	-356.76
PM0,0000000000015625	µg/m³	-359.12	-362.12	-362.12	-362.12
PM0,000000000001125	µg/m³	-364.48	-367.48	-367.48	-367.48
PM0,000000000000875	µg/m³	-369.84	-372.84	-372.84	-372.84
PM0,000000000000625	µg/m³	-375.20	-378.20	-378.20	-378.20
PM0,0000000000004375	µg/m³	-380.56	-383.56	-383.56	-383.56
PM0,0000000000003125	µg/m³	-385.92	-388.92	-388.92	-388.92
PM0,00000000000021875	µg/m³	-391.28	-394.28	-394.28	-394.28
PM0,00000000000015625	µg/m³	-396.64	-399.64	-399.64	-399.64
PM0,0000000000001125	µg/m³	-402.00	-405.00	-405.00	-405.00
PM0,0000000000000875	µg/m³	-407.36	-410.36	-410.36	-410.36
PM0,0000000000000625	µg/m³	-412.72	-415.72	-415.72	-415.72
PM0,00000000000004375	µg/m³	-418.08	-421.08	-421.08	-421.08
PM0,00000000000003125	µg/m³	-423.44	-426.44	-426.44	-426.44
PM0,000000000000021875	µg/m³	-428.80	-431.80	-431.80	-431.80
PM0,000000000000015625	µg/m³	-434.16	-437.16	-437.16	-437.16
PM0,00000000000001125	µg/m³	-439.52	-442.52	-442.52	-442.52
PM0,00000000000000875	µg/m³	-444.88	-447.88	-447.88	-447.88
PM0,00000000000000625	µg/m³	-450.24	-453.24	-453.24	-453.24
PM0,000000000000004375	µg/m³	-455.60	-458.60	-458.60	-458.60
PM0,000000000000003125	µg/m³	-460.96	-463.96	-463.96	-463.96
PM0,0000000000000021875	µg/m³	-466.32	-469.32	-469.32	-469.32
PM0,0000000000000015625	µg/m³	-471.68	-474.68	-474.68	-474.68
PM0,000000000000001125	µg/m³	-477.04	-480.04	-480.04	-480.04
PM0,000000000000000875	µg/m³	-482.40	-485.40	-485.40	-485.40
PM0,000000000000000625	µg/m³	-487.76	-490.76	-490.76	-490.76
PM0,0000000000000004375	µg/m³	-493.12	-496.12	-496.12	-496.12
PM0,0000000000000003125	µg/m³	-498.48	-501.48	-501.48	-501.48
PM0,00000000000000021875	µg/m³	-503.84	-506.84	-506.84	-506.84
PM0,00000000000000015625	µg/m³	-509.20	-512.20	-512.20	-512.20
PM0,0000000000000001125	µg/m³	-514.56	-517.56	-517.56	-517.56
PM0,0000000000000000875	µg/m³	-519.92	-522.92	-522.92	-522.92
PM0,0000000000000000625	µg/m³	-525.28	-528.28	-528.28	-528.28
PM0,00000000000000004375	µg/m³	-530.64	-533.64	-533.64	-533.64
PM0,00000000000000003125	µg/m³	-536.00	-539.00	-539.00	-539.00
PM0,000000000000000021875	µg/m³	-541.36	-544.36	-544.36	-544.36
PM0,000000000000000015625	µg/m³	-546.72	-549.72	-549.72	-549.72
PM0,00000000000000001125	µg/m³	-552.08	-555.08	-555.08	-555.08
PM0,00000000000000000875	µg/m³	-557.44	-560.44	-560.44	-560.44
PM0,00000000000000000625	µg/m³	-562.80	-565.80	-565.80	-565.80
PM0,000000000000000004375	µg/m³	-568.16	-571.16	-571.16	-571.16
PM0,000000000000000003125	µg/m³	-573.52	-576.52	-576.52	-576.52
PM0,0000000000000000021875	µg/m³	-578.88	-581.88	-581.88	-581.88
PM0,0000000000000000015625	µg/m³	-584.24	-587.24	-587.24	-587.24
PM0,000000000000000001125	µg/m³	-589.60	-592.60	-592.60	-592.60
PM0,000000000000000000875	µg/m³	-594.96	-597.96	-597.96	-597.96
PM0,000000000000000000625	µg/m³	-600.32	-603.32	-603.32	-603.32
PM0,0000000000000000004375	µg/m³	-605.68	-608.68	-608.68	-608.68
PM0,0000000000000000003125	µg/m³	-611.04	-614.04	-614.04	-614.04
PM0,00000000000000000021875	µg/m³	-616.40	-619.40	-619.40	-619.40
PM0,00000000000000000015625	µg/m				

### Lampiran 3 Uji Statistik SPSS

#### Lampiran 3.1 Uji Perbandingan hari kerja dan hari libur

Tests of Normality						
	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Hari Kerja 1_Titik 1	.188	5	.200 <sup>*</sup>	.959	5	.801
Hari Kerja 2_Titik 1	.207	5	.200 <sup>*</sup>	.947	5	.714
Hari Libur_Titik 1	.233	5	.200 <sup>*</sup>	.908	5	.457
Hari Kerja 1_Titik 2	.343	5	.055	.867	5	.256
Hari Kerja 2_Titik 2	.259	5	.200 <sup>*</sup>	.936	5	.639
Hari Libur_Titik 2	.297	5	.170	.844	5	.177
Hari Kerja 1_Titik 3	.151	5	.200 <sup>*</sup>	.995	5	.994
Hari Kerja 2_Titik 3	.242	5	.200 <sup>*</sup>	.885	5	.332
Hari Libur_Titik 3	.203	5	.200 <sup>*</sup>	.916	5	.503
Hari Kerja 1_Titik 4	.219	5	.200 <sup>*</sup>	.966	5	.850
Hari Kerja 2_Titik 4	.155	5	.200 <sup>*</sup>	.994	5	.990
Hari Libur_Titik 4	.243	5	.200 <sup>*</sup>	.879	5	.305

\*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Paired Samples Test									
		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Hari Kerja 1_Titik 1 - Hari Kerja 2_Titik 1	11.31000	35.38495	15.82463	-32.62622	55.24622	.715	4	.514
Pair 2	Hari Kerja 1_Titik 1 - Hari Libur_Titik 1	39.33200	47.28521	21.14659	-19.38035	98.04435	1.860	4	.136
Pair 3	Hari Kerja 2_Titik 1 - Hari Libur_Titik 1	28.02200	38.05911	17.02055	-19.23463	75.27863	1.646	4	.175
Pair 4	Hari Kerja 1_Titik 2 - Hari Kerja 2_Titik 2	43.25600	84.44112	37.76322	-61.59150	148.10350	1.145	4	.316
Pair 5	Hari Kerja 1_Titik 2 - Hari Libur_Titik 2	48.06000	51.86670	23.19549	-16.34101	112.46101	2.072	4	.107
Pair 6	Hari Kerja 2_Titik 2 - Hari Libur_Titik 2	4.80400	56.41399	25.22910	-65.24322	74.85122	.190	4	.858
Pair 7	Hari Kerja 1_Titik 3 - Hari Kerja 2_Titik 3	22.22800	37.14083	16.60989	-23.88843	68.34443	1.338	4	.252
Pair 8	Hari Kerja 1_Titik 3 - Hari Libur_Titik 3	29.20000	58.58301	26.19912	-43.54041	101.94041	1.115	4	.327
Pair 9	Hari Kerja 2_Titik 3 - Hari Libur_Titik 3	6.97200	60.16922	26.90849	-67.73796	81.68196	.259	4	.808
Pair 10	Hari Kerja 1_Titik 4 - Hari Kerja 2_Titik 4	27.73000	27.52817	12.31097	-6.45074	61.91074	2.252	4	.087
Pair 11	Hari Kerja 1_Titik 4 - Hari Libur_Titik 4	22.16000	57.86502	25.87802	-49.68891	94.00891	.856	4	.440
Pair 12	Hari Kerja 2_Titik 4 - Hari Libur_Titik 4	-5.57000	38.65378	17.28649	-53.56500	42.42500	-.322	4	.763

### Lampiran 3.2 Perbandingan volume kendaraan pada hari kerja dan hari libur (*non-parametrik 2 Related Samples*)

#### Test Statistics<sup>a</sup>

	weekday 2 motor - weekday 1 motor	weekend motor - weekday 1 motor	weekend motor - weekday 2 motor	weekday 2 k.ringan - weekday 1 k.ringan	weekend k.ringan - weekday 1 k.ringan	weekend k.ringan - weekday 2 k.ringan	weekday 2 k. berat - weekday 1 k. berat	weekend k. berat - weekday 1 k. berat	weekend k. berat - weekday 2 k. berat
Z	-1.363 <sup>b</sup>	-2.201 <sup>b</sup>	-2.201 <sup>b</sup>	-1.992 <sup>b</sup>	-2.201 <sup>b</sup>	-1.992 <sup>b</sup>	-.734 <sup>b</sup>	-2.201 <sup>b</sup>	-2.201 <sup>b</sup>
Asymp. Sig. (2-tailed)	.173	.028	.028	.046	.028	.046	.463	.028	.028

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

### Lampiran 3.3 Perbandingan tingkat konsentrasi PM antar titik pengukuran

#### Lampiran 3.3.1 Perbandingan antar titik untuk konsentrasi PM > 10 $\mu\text{m}$

#### Ranks

	Lokasi	N	Mean Rank
Konsentrasi	1.0	3	3.67
	2.0	3	6.67
	3.0	3	7.33
	4.0	3	8.33
	Total	12	

#### Test Statistics<sup>a,b</sup>

Konsentrasi	
Kruskal-Wallis H	2.795
df	3
Asymp. Sig.	.424

a. Kruskal Wallis Test

b. Grouping Variable:  
Lokasi

Lampiran 3.3.2 Perbandingan antar titik untuk konsentrasi PM 2,5 - 10  $\mu\text{m}$ 

**Ranks**

	Lokasi	N	Mean Rank
Konsentrasi	1.0	3	4.33
	2.0	3	8.33
	3.0	3	6.33
	4.0	3	7.00
	Total	12	

**Test Statistics<sup>a,b</sup>**

Konsentrasi

Kruskal-Wallis H	1.923
df	3
Asymp. Sig.	.589

a. Kruskal Wallis Test

b. Grouping Variable:  
LokasiLampiran 3.3.3 Perbandingan antar titik untuk konsentrasi PM 1 – 2,5  $\mu\text{m}$ 

**Ranks**

	Lokasi	N	Mean Rank
Konsentrasi	1	3	7.00
	2	3	8.67
	3	3	5.00
	4	3	5.33
	Total	12	

**Test Statistics<sup>a,b</sup>**

Konsentrasi

Kruskal-Wallis H	1.974
df	3
Asymp. Sig.	.578

a. Kruskal Wallis Test

b. Grouping Variable:  
Lokasi

Lampiran 3.3.4 Perbandingan antar titik untuk konsentrasi PM 0,5 - 1  $\mu\text{m}$ 

**Ranks**

	Lokasi	N	Mean Rank
Konsentrasi	1	3	8.33
	2	3	6.00
	3	3	6.67
	4	3	5.00
	Total	12	

**Test Statistics<sup>a,b</sup>**

Konsentrasi	
Kruskal-Wallis H	1.359
df	3
Asymp. Sig.	.715

a. Kruskal Wallis Test

b. Grouping Variable:  
LokasiLampiran 3.3.5 Perbandingan antar titik untuk konsentrasi PM > 0,5  $\mu\text{m}$ 

**Ranks**

	Lokasi	N	Mean Rank
Konsentrasi	1	3	5.33
	2	3	5.33
	3	3	8.33
	4	3	7.00
	Total	12	

**Test Statistics<sup>a,b</sup>**

Konsentrasi	
Kruskal-Wallis H	1.462
df	3
Asymp. Sig.	.691

a. Kruskal Wallis Test

b. Grouping Variable:  
Lokasi



## Lampiran 3.3.6 Perbandingan antar titik untuk konsentrasi TSP

**Ranks**

	Lokasi	N	Mean Rank
Konsentrasi	1	3	5.67
	2	3	6.00
	3	3	6.33
	4	3	8.00
	Total	12	

**Test Statistics<sup>a,b</sup>**

Konsentrasi	
Kruskal-Wallis H	.744
df	3
Asymp. Sig.	.863

a. Kruskal Wallis Test

b. Grouping Variable:  
LokasiLampiran 3.3.7 Perbandingan antar titik untuk konsentrasi PM<sub>10</sub>

**Ranks**

	Lokasi	N	Mean Rank
Konsentrasi	1	3	6.67
	2	3	6.00
	3	3	6.33
	4	3	7.00
	Total	12	

**Test Statistics<sup>a,b</sup>**

Konsentrasi	
Kruskal-Wallis H	.128
df	3
Asymp. Sig.	.988

a. Kruskal Wallis Test

b. Grouping Variable:  
Lokasi

Lampiran 3.3.8 Perbandingan antar titik untuk konsentrasi PM<sub>2,5</sub>

Ranks			
	Lokasi	N	Mean Rank
Konsentrasi	1	3	8.00
	2	3	5.67
	3	3	7.00
	4	3	5.33
	Total	12	

Test Statistics<sup>a,b</sup>

Konsentrasi	
Kruskal-Wallis H	1.051
df	3
Asymp. Sig.	.789

a. Kruskal Wallis Test

b. Grouping Variable:  
LokasiUji *Pos-hoc* dengan *Mann-Whitney*

Lokasi	Signifikansi							
	PM (>10 µm)	PM (2,5-10 µm)	PM (1-2,5 µm)	PM (0,5-1 µm)	PM (<0,5 µm)	TSP	PM <sub>10</sub>	PM <sub>2,5</sub>
A.P Pettarani - Sultan Alauddin	0.4	0.4	0.7	0.4	1	1	1	0.7
A.P Pettarani - Lapangan	0.4	0.7	0.7	0.7	0.4	1	1	1
A.P Pettarani - Ruang Kelas	0.2	0.4	0.7	0.7	0.7	0.7	1	0.4
Sultan Alauddin - Ruang Kelas	1	0.7	0.4	1	0.7	1	1	1
Sultan Alauddin - Lapangan	0.7	0.7	0.4	0.7	0.7	0.7	1	1
Lapangan - Ruang Kelas	1	1	1	0.7	0.7	0.7	1	0.7

### Lampiran 3.4 Hubungan volume kendaraan dan konsentasi partikulat (pengukuran di Jl. A.P Pettarani)

		Correlations							
			Kons.TSP	vol. sepeda motor	vol. kend. Ringan	vol.kend berat	kec. sepeda motor	kec. kend. Ringan	kec.kend berat
Spearman's rho	Kons.TSP	Correlation Coefficient	1.000	1.000**	1.000**	1.000**	-1.000**	-1.000**	-1.000**
		Sig. (2-tailed)	.	.	.	.	.	.	.
		N	3	3	3	3	3	3	3
vol. sepeda motor		Correlation Coefficient	1.000**	1.000	1.000**	1.000**	-1.000**	-1.000**	-1.000**
		Sig. (2-tailed)	.	.	.	.	.	.	.
		N	3	3	3	3	3	3	3
vol. kend. Ringan		Correlation Coefficient	1.000**	1.000**	1.000	1.000**	-1.000**	-1.000**	-1.000**
		Sig. (2-tailed)	.	.	.	.	.	.	.
		N	3	3	3	3	3	3	3
vol.kend berat		Correlation Coefficient	1.000**	1.000**	1.000**	1.000	-1.000**	-1.000**	-1.000**
		Sig. (2-tailed)	.	.	.	.	.	.	.
		N	3	3	3	3	3	3	3
kec. sepeda motor		Correlation Coefficient	-1.000**	-1.000**	-1.000**	-1.000**	1.000	1.000**	1.000**
		Sig. (2-tailed)	.	.	.	.	.	.	.
		N	3	3	3	3	3	3	3
kec. kend. Ringan		Correlation Coefficient	-1.000**	-1.000**	-1.000**	-1.000**	1.000	1.000	1.000**
		Sig. (2-tailed)	.	.	.	.	.	.	.
		N	3	3	3	3	3	3	3
kec.kend berat		Correlation Coefficient	-1.000**	-1.000**	-1.000**	-1.000**	1.000	1.000**	1.000
		Sig. (2-tailed)	.	.	.	.	.	.	.
		N	3	3	3	3	3	3	3

\*\* . Correlation is significant at the 0.01 level (2-tailed).

### Lampiran 3.5 Hubungan volume kendaraan dan konsentasi partikulat (pengukuran di Jl Sultan Alauddin)

		Correlations							
			Kons.TSP	vol. sepeda motor	vol. kend. Ringan	vol.kend berat	kec. sepeda motor	kec. kend. Ringan	kec.kend berat
Spearman's rho	Kons.TSP	Correlation Coefficient	1.000	1.000**	1.000**	1.000**	.500	-1.000**	-1.000**
		Sig. (2-tailed)	.	.	.	.	.667	.	.
		N	3	3	3	3	3	3	3
vol. sepeda motor		Correlation Coefficient	1.000**	1.000	1.000**	1.000**	.500	-1.000**	-1.000**
		Sig. (2-tailed)	.	.	.	.	.667	.	.
		N	3	3	3	3	3	3	3
vol. kend. Ringan		Correlation Coefficient	1.000**	1.000**	1.000	1.000**	.500	-1.000**	-1.000**
		Sig. (2-tailed)	.	.	.	.	.667	.	.
		N	3	3	3	3	3	3	3
vol.kend berat		Correlation Coefficient	1.000**	1.000**	1.000**	1.000	.500	-1.000**	-1.000**
		Sig. (2-tailed)	.	.	.	.	.667	.	.
		N	3	3	3	3	3	3	3
kec. sepeda motor		Correlation Coefficient	.500	.500	.500	.500	1.000	-.500	-.500
		Sig. (2-tailed)	.667	.667	.667	.667	.	.667	.667
		N	3	3	3	3	3	3	3
kec. kend. Ringan		Correlation Coefficient	-1.000**	-1.000**	-1.000**	-1.000**	-.500	1.000	1.000**
		Sig. (2-tailed)	.	.	.	.	.667	.	.
		N	3	3	3	3	3	3	3
kec.kend berat		Correlation Coefficient	-1.000**	-1.000**	-1.000**	-1.000**	-.500	1.000**	1.000
		Sig. (2-tailed)	.	.	.	.	.667	.	.
		N	3	3	3	3	3	3	3

\*\* . Correlation is significant at the 0.01 level (2-tailed).

### Lampiran 3.6 Hubungan volume kendaraan di Jl. AP Pettarani dan konsentasi partikulat matter di lapangan

		Correlations							
			Kons.TSP	vol. sepeda motor	vol. kend. Ringan	vol.kend berat	kec. sepeda motor	kec. kend. Ringan	kec.kend berat
Spearman's rho	Kons.TSP	Correlation Coefficient	1.000	.500	1.000**	.500	-1.000**	-1.000**	-1.000**
		Sig. (2-tailed)	.	.667	.	.667	.	.	.
		N	3	3	3	3	3	3	3
vol. sepeda motor		Correlation Coefficient	.500	1.000	.500	1.000**	-.500	-.500	-.500
		Sig. (2-tailed)	.667	.	.667	.	.667	.667	.667
		N	3	3	3	3	3	3	3
vol. kend. Ringan		Correlation Coefficient	1.000**	.500	1.000	.500	-1.000**	-1.000**	-1.000**
		Sig. (2-tailed)	.	.667	.	.667	.	.	.
		N	3	3	3	3	3	3	3
vol.kend berat		Correlation Coefficient	.500	1.000**	.500	1.000	-.500	-.500	-.500
		Sig. (2-tailed)	.667	.	.667	.	.667	.667	.667
		N	3	3	3	3	3	3	3
kec. sepeda motor		Correlation Coefficient	-1.000**	-.500	-1.000**	-.500	1.000	1.000**	1.000**
		Sig. (2-tailed)	.	.667	.	.667	.	.	.
		N	3	3	3	3	3	3	3
kec. kend. Ringan		Correlation Coefficient	-1.000**	-.500	-1.000**	-.500	1.000**	1.000	1.000**
		Sig. (2-tailed)	.	.667	.	.667	.	.	.
		N	3	3	3	3	3	3	3
kec.kend berat		Correlation Coefficient	-1.000**	-.500	-1.000**	-.500	1.000**	1.000**	1.000
		Sig. (2-tailed)	.	.667	.	.667	.	.	.
		N	3	3	3	3	3	3	3

\*\* . Correlation is significant at the 0.01 level (2-tailed).

### Lampiran 3.7 Hubungan volume kendaraan di Jl. Sultan Alauddin dan konsentasi partikulat matter di lapangan

		Correlations							
			Kons.TSP	vol. sepeda motor	vol. kend. Ringan	vol.kend berat	kec. sepeda motor	kec. kend. Ringan	kec.kend berat
Spearman's rho	Kons.TSP	Correlation Coefficient	1.000	.500	.500	.500	-.500	-.500	-1.000**
		Sig. (2-tailed)	.	.667	.667	.667	.667	.667	.
		N	3	3	3	3	3	3	3
vol. sepeda motor		Correlation Coefficient	.500	1.000	-.500	1.000**	-1.000**	-1.000**	-.500
		Sig. (2-tailed)	.667	.	.667	.	.	.	.667
		N	3	3	3	3	3	3	3
vol. kend. Ringan		Correlation Coefficient	.500	-.500	1.000	-.500	.500	.500	-.500
		Sig. (2-tailed)	.667	.667	.	.667	.667	.667	.667
		N	3	3	3	3	3	3	3
vol.kend berat		Correlation Coefficient	.500	1.000**	-.500	1.000	-1.000**	-1.000**	-.500
		Sig. (2-tailed)	.667	.	.667	.	.	.	.667
		N	3	3	3	3	3	3	3
kec. sepeda motor		Correlation Coefficient	-.500	-1.000**	.500	-1.000**	1.000	1.000**	.500
		Sig. (2-tailed)	.667	.	.667	.	.	.	.667
		N	3	3	3	3	3	3	3
kec. kend. Ringan		Correlation Coefficient	-.500	-1.000**	.500	-1.000**	1.000**	1.000	.500
		Sig. (2-tailed)	.667	.	.667	.	.	.	.667
		N	3	3	3	3	3	3	3
kec.kend berat		Correlation Coefficient	-1.000**	-.500	-.500	-.500	.500	.500	1.000
		Sig. (2-tailed)	.	.667	.667	.667	.667	.667	.
		N	3	3	3	3	3	3	3

\*\* . Correlation is significant at the 0.01 level (2-tailed).

### Lampiran 3.8 Hubungan volume kendaraan di Jl. AP Pettarani dan konsentasi partikulat matter di ruang kelas

			Correlations						
			Kons.TSP	vol. sepeda motor	vol. kend. Ringan	vol.kend berat	kec. sepeda motor	kec. kend. Ringan	kec.kend berat
Spearman's rho	Kons.TSP	Correlation Coefficient	1.000	.500	-.500	.500	-.500	-.500	-.500
		Sig. (2-tailed)	.	.667	.667	.667	.667	.667	.667
		N	3	3	3	3	3	3	3
vol. sepeda motor	vol. sepeda motor	Correlation Coefficient	.500	1.000	.500	1.000**	-1.000**	-1.000**	-1.000**
		Sig. (2-tailed)	.667	.	.667	.	.	.	.
		N	3	3	3	3	3	3	3
vol. kend. Ringan	vol. kend. Ringan	Correlation Coefficient	-.500	.500	1.000	.500	-.500	-.500	-.500
		Sig. (2-tailed)	.667	.667	.	.667	.667	.667	.667
		N	3	3	3	3	3	3	3
vol.kend berat	vol.kend berat	Correlation Coefficient	.500	1.000**	.500	1.000	-1.000**	-1.000**	-1.000**
		Sig. (2-tailed)	.667	.	.667	.	.	.	.
		N	3	3	3	3	3	3	3
kec. sepeda motor	kec. sepeda motor	Correlation Coefficient	-.500	-1.000**	-.500	-1.000**	1.000	1.000**	1.000**
		Sig. (2-tailed)	.667	.	.667	.	.	.	.
		N	3	3	3	3	3	3	3
kec. kend. Ringan	kec. kend. Ringan	Correlation Coefficient	-.500	-1.000**	-.500	-1.000**	1.000**	1.000	1.000*
		Sig. (2-tailed)	.667	.	.667	.	.	.	.
		N	3	3	3	3	3	3	3
kec.kend berat	kec.kend berat	Correlation Coefficient	-.500	-1.000**	-.500	-1.000**	1.000**	1.000**	1.000
		Sig. (2-tailed)	.667	.	.667	.	.	.	.
		N	3	3	3	3	3	3	3

\*\* . Correlation is significant at the 0.01 level (2-tailed).

### Lampiran 3.9 Hubungan volume kendaraan di Jl. Sultan Alauddin dan konsentasi partikulat matter di ruang kelas

			Correlations						
			Kons.TSP	vol. sepeda motor	vol. kend. Ringan	vol.kend berat	kec. sepeda motor	kec. kend. Ringan	kec.kend berat
Spearman's rho	Kons.TSP	Correlation Coefficient	1.000	.500	.500	.500	-.500	-.500	-.500
		Sig. (2-tailed)	.	.667	.667	.667	.667	.667	.667
		N	3	3	3	3	3	3	3
vol. sepeda motor	vol. sepeda motor	Correlation Coefficient	.500	1.000	1.000**	1.000**	-1.000**	-1.000**	-1.000**
		Sig. (2-tailed)	.667	.	.	.	.	.	.
		N	3	3	3	3	3	3	3
vol. kend. Ringan	vol. kend. Ringan	Correlation Coefficient	.500	1.000**	1.000	1.000**	-1.000**	-1.000**	-1.000**
		Sig. (2-tailed)	.667	.	.	.	.	.	.
		N	3	3	3	3	3	3	3
vol.kend berat	vol.kend berat	Correlation Coefficient	.500	1.000**	1.000**	1.000	-1.000**	-1.000**	-1.000**
		Sig. (2-tailed)	.667	.	.	.	.	.	.
		N	3	3	3	3	3	3	3
kec. sepeda motor	kec. sepeda motor	Correlation Coefficient	-.500	-1.000**	-1.000**	-1.000**	1.000	1.000**	1.000**
		Sig. (2-tailed)	.667	.	.	.	.	.	.
		N	3	3	3	3	3	3	3
kec. kend. Ringan	kec. kend. Ringan	Correlation Coefficient	-.500	-1.000**	-1.000**	-1.000**	1.000**	1.000	1.000**
		Sig. (2-tailed)	.667	.	.	.	.	.	.
		N	3	3	3	3	3	3	3
kec.kend berat	kec.kend berat	Correlation Coefficient	-.500	-1.000**	-1.000**	-1.000**	1.000**	1.000**	1.000
		Sig. (2-tailed)	.667	.	.	.	.	.	.
		N	3	3	3	3	3	3	3

\*\* . Correlation is significant at the 0.01 level (2-tailed).